Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An open coil convection system for convection ovens comprising:

(a) a motor for rotating a shaft;

(b) a fan coupled to the shaft and configured to produce a radial airflow directed outward from the fan; and

(c) an open coil heating element positioned around the fan such that a substantial portion of the radial airflow passes through the open coil heating element thereby transferring heat from the open coil heating element to the radial airflow.

2. (original) The open coil convection system of claim 1 wherein the open coil heating element comprises a helically wound resistance wire having a plurality of supporting insulators along its length.

3. (original) The open coil convection system of Claim 1 further comprising:

(a) a temperature sensor for measuring an actual oven air temperature;

(b) a temperature selector permitting a user to input a desired oven air temperature; and

(c) a controller operatively coupled to receive the actual oven air temperature from the temperature sensor and operatively coupled to receive the desired oven air temperature from the temperature selector, wherein the controller is adapted to supply power to the open coil heating element when the difference between the actual oven air temperature and the desired oven air temperature exceeds a specified threshold.

4. (original) The open coil convection system of Claim 3 wherein the controller is further adapted to supply power to the fan, and wherein power is supplied to the fan at least when power is supplied to the open coil heating element.

5. (original) The open coil convection system of Claim 3 wherein the temperature sensor is located above the open coil heating element whereby the temperature sensor is adapted to detect an over-temperature condition in the open coil heating element.

6. (original) The open coil convection system of Claim 5 wherein power is not supplied to the open coil heating element when the temperature sensor indicates an over-temperature condition in the open coil heating element.

7. (original) The open coil convection system of Claim 1 further comprising:

(a) a current sensor for measuring a current through the motor; and

(b) a controller operatively coupled to the current sensor and adapted to supply power to the open coil heating element, wherein the controller removes power to the open coil heating element when the current sensor indicates the current through the motor exceeds a selected maximum threshold.

8. (original) The open coil convection system of Claim 7 further comprising a temperature sensor located above the open coil heating element, wherein the controller is operatively coupled to the temperature sensor, and wherein the controller does not supply power to the open coil heating element when the temperature sensor indicates an over-temperature condition in the open coil heating element.

9. (original) The open coil convection system of Claim 1 further comprising:

(a) a current sensor for measuring a current through the motor; and

(b) a controller operatively coupled to the current sensor and adapted to supply power to the open coil heating element, wherein the controller removes power to the open coil heating element when the current sensor indicates the current through the motor is below a selected minimum threshold.

10. (original) The open coil convection system of Claim 9 further comprising a temperature sensor located above the open coil heating element, wherein the controller is operatively coupled to the temperature sensor, and wherein the controller does not supply power to the open coil heating element when the temperature sensor indicates an over-temperature condition in the open coil heating element.

11. (original) A method of operating an open coil element convection system in a convection oven comprising:

(a) applying power to a motor, wherein the motor rotates a shaft that is coupled to a fan, and wherein the fan is configured for producing a radial airflow directed outward; and

(b) simultaneously applying electric power to an open coil heating element formed around the fan wherein the open coil heating element converts at least a portion of the applied electric power to heat and wherein at least half of the radial airflow passes through the open coil heating element, thereby transferring heat from the open coil heating element to at least a portion of the radial airflow.

12. (original) The method of Claim 11, further comprising:

(a) measuring an actual air temperature of air within a convection oven;

(b) monitoring a temperature selection input wherein a user selects a desired temperature by manipulating the temperature selection input; and

(c) applying power to the motor and the open coil heating element when the difference between the actual air temperature and the desired temperature exceeds a selected

threshold, and removing power to the motor and the open coil hearing element when the difference between the actual air temperature and the desired temperature is less than the selected threshold.

13. (original) The method of Claim 12, wherein the step of measuring an actual air temperature includes positioning a temperature sensor above the open coil heating element.

14. (original) The method of Claim 13, further comprising the step of removing power to the open coil heating element when the actual air temperature exceeds a selected maximum limit.

15. (currently amended) The method of Claim ~~10~~ 11, further comprising:

(a) monitoring the magnitude of a current in the motor;

(b) comparing the magnitude of the current in the motor to a selected maximum limit; and

(c) removing power from the open coil heating element when the magnitude of the current in the motor exceeds the selected maximum limit.

16. (currently amended) The method of Claim ~~10~~ 11, further comprising:

(a) monitoring the magnitude of a current in the motor;

(b) comparing the magnitude of the current in the motor to a selected minimum limit; and

(c) removing power from the open coil heating element when the magnitude of the current in the motor is less than the selected minimum limit.

17. (currently amended) A convection oven comprising:

(a) oven walls and an oven door defining an oven cavity;

(b) a motor adapted to receive power and to rotate a shaft extending into the oven cavity;

(c) a fan located inside the oven cavity and coupled to the shaft, wherein the fan is configured for producing a radial airflow directed outward from the fan; and

(d) an open coil heating element adapted to receive power and to convert the power into heat, wherein the open coil heating element is formed around the fan whereby ~~at least a~~ a substantial portion of the radial airflow passes through the open coil heating element.

18. (original) The convection oven of Claim 17 wherein the open coil element comprises a helically wound resistance wire having a plurality of supporting insulators along its length.

19. (original) The convection oven of Claim 17 further comprising:

(a) a temperature sensor for measuring an actual temperature;

(b) a temperature selector permitting a user to input a desired temperature; and

(c) a controller operatively coupled to the temperature sensor and to the temperature selector, wherein the controller is further adapted to supply power to the open coil heating element to minimize the difference between the actual temperature and the desired temperature.

20. (original) The convection oven of Claim 17 wherein power is supplied to the motor at least when power is supplied to the open coil heating element.

21. (original) The convection oven of Claim 17 wherein power is only supplied to the motor when power is supplied to the open coil heating element.

22. (original) The convection oven of Claim 17 further comprising:

(a) a current sensor for measuring a current in the motor; and,

(b) a controller operatively coupled to the current sensor, wherein the controller removes power from the open coil heating element when the current in the motor exceeds a threshold value.

23. (original) The convection oven of Claim 17 further comprising:

(a) a current sensor for measuring a current in the motor; and,

(b) a controller operatively coupled to the current sensor, wherein the controller removes power from the open coil heating element when the current in the motor is less than a minimum value.

24. (new) An open coil convection system for convection ovens comprising:

(a) a motor for rotating a shaft;

(b) a fan coupled to the shaft and configured to produce a radial airflow directed outward from the fan;

(c) an open coil heating element positioned around the fan such that the radial airflow passes through the open coil heating element thereby transferring heat from the open coil heating element to the radial airflow;

(d) a current sensor for measuring a current through the motor; and

(e) a controller operatively coupled to the current sensor and adapted to supply power to the open coil heating element, wherein the controller removes power to the open coil heating element when the current sensor indicates the current through the motor exceeds a selected maximum threshold.

25. (new) The open coil convection system of Claim 24 further comprising a temperature sensor located above the open coil heating element, wherein the controller is operatively coupled to the temperature sensor, and wherein the controller does not supply power

to the open coil heating element when the temperature sensor indicates an over-temperature condition in the open coil heating element.

26. (new) An open coil convection system for convection ovens comprising:

(a) a motor for rotating a shaft;

(b) a fan coupled to the shaft and configured to produce a radial airflow directed outward from the fan;

(c) an open coil heating element positioned around the fan such that the radial airflow passes through the open coil heating element thereby transferring heat from the open coil heating element to the radial airflow;

(d) a current sensor for measuring a current through the motor; and

(e) a controller operatively coupled to the current sensor and adapted to supply power to the open coil heating element, wherein the controller removes power to the open coil heating element when the current sensor indicates the current through the motor is below a selected minimum threshold.

27. (new) The open coil convection system of Claim 26 further comprising a temperature sensor located above the open coil heating element, wherein the controller is operatively coupled to the temperature sensor, and wherein the controller does not supply power to the open coil heating element when the temperature sensor indicates an over-temperature condition in the open coil heating element.

28. (new) A method of operating an open coil element convection system in a convection oven comprising:

(a) applying power to a motor, wherein the motor rotates a shaft that is coupled to a fan, and wherein the fan is configured for producing a radial airflow directed outward;

(b) simultaneously applying electric power to an open coil heating element formed around the fan wherein the open coil heating element converts at least a portion of the applied electric power to heat and wherein at least half of the radial airflow passes through the open coil heating element, thereby transferring heat from the open coil heating element to at least a portion of the radial airflow;

(c) monitoring the magnitude of a current in the motor;

(d) comparing the magnitude of the current in the motor to a selected maximum limit; and

(e) removing power from the open coil heating element when the magnitude of the current in the motor exceeds the selected maximum limit.

29. (new) A method of operating an open coil element convection system in a convection oven comprising:

(a) applying power to a motor, wherein the motor rotates a shaft that is coupled to a fan, and wherein the fan is configured for producing a radial airflow directed outward;

(b) simultaneously applying electric power to an open coil heating element formed around the fan wherein the open coil heating element converts at least a portion of the applied electric power to heat and wherein at least half of the radial airflow passes through the open coil heating element, thereby transferring heat from the open coil heating element to at least a portion of the radial airflow;

(c) monitoring the magnitude of a current in the motor;

(d) comparing the magnitude of the current in the motor to a selected minimum limit; and

(e) removing power from the open coil heating element when the magnitude of the current in the motor is less than the selected minimum limit.